William Styles Jones
in Fleet Lane London

A

CENTURY

OF THE

Names and Scantlings

OF SUCH

INVENTIONS,

As at present I can call to mind to have tried and perfected, which (my former Notes being lost) I have, at the instance of a powerful Friend, endeavoured now in the Year 1655. to set these down in such a way as may sufficiently instruct me to put any of them in practice.

Artis & Naturæ proles.

LONDON:
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16-14

TO THE

KINGS

Moſt Excellent MAJESTY.

SIR,

SCire meum nihil eſt, niſi me ſcire hoc ſciat alter, *ſaith the Poet, and* I *moſt juſtly in order to Your Majeſty, whoſe ſatisfaction is my happineſs, and whom to ſerve is my onely aime, placing*

therein my Summum bonum *in this world: Be therefore pleased to cast Your gracious Eye over this Summary Collection, and then to pick and choose. I confess, I made it but for the superficial satisfaction of a friends curiosity, according as it is set downe; and if it might now serve to give aime to Your Majesty*

how

how to make use of my poor Endeavours, it would crowne my thoughts, who am neither covetous nor ambitious, but of deserving Your Majesties favour upon my own cost and charges; yet, according to the old English Proverb, It is a poor Dog not worth whistleing after. *Let but Your Ma-*

jesty approve, and I will effectually perform to the height of my Undertaking: Vouchsafe but to command, and with my Life and Fortune I shall chearfully obey, and maugre *envy, ignorance and malice, ever appear*

YOUR MAJESTY's

Passionately-devoted, or otherwise dis-interested Subject and Servant,

WORCESTER

To the Right Honourable,

The Lords Spiritual and Temporal;

And to the Knights, Citizens and Burgeſſes *of the Honourable Houſe of Commons; now aſſembled in Parliament.*

My Lords and Gentlemen,

BE not ſtartled if I addreſs to all, and every of you, this Century of Summary Heads of wonderful things, even after the Dedication of them to His moſt Excellent Majeſty, ſince it is with His moſt gracious and particular conſent, as well as indeed no wayes derogating from my duty to His Sa-

cred Self, but rather in further order unto it, ſince your Lordſhips, who are His great Council, and you Gentlemen His whole Kingdoms Repreſentatives (moſt worthily welcome unto Him) may fitly receive into your wiſe and ſerious conſiderations what doth or may publickly concern both His Majeſty and His tenderly-beloved People.

Pardon me if I ſay (my Lords and Gentlemen) that it is joyntly your parts to digeſt to His hand theſe enſuing particulars, fitting them to His palate, and ordering how to reduce them into practice in a way uſeful and beneficial both to His Majeſty and His Kingdom.

Neither do I eſteem it leſs

proper

proper for me to preſent them to you in order to His Majeſty's ſervice, then it is to give into the hands of a faithful and provident Steward whatſoever dainties and proviſions are intended for the Maſters diet; the knowing and faithful Steward being beſt able to make uſe thereof to his Maſters contentment and greateſt profit, keeping for the morrow whatever ſhould be overplus or needleſs for the preſent day, or at leaſt to ſave ſomething elſe in lieu thereof. In a word, (my Lords and Gentlemen) I humbly conceive this *Simile* not improper, ſince you are His Majeſty's provident Stewards, into whoſe hands I commit my ſelf, with all pro-

cred Self, but rather in further order unto it, since your Lordships, who are His great Council, and you Gentlemen His whole Kingdoms Representatives (most worthily welcome unto Him) may fitly receive into your wise and serious considerations what doth or may publickly concern both His Majesty and His tenderly-beloved People.

Pardon me if I say (my Lords and Gentlemen) that it is joyntly your parts to digest to His hand these ensuing particulars, fitting them to His palate, and ordering how to reduce them into practice in a way useful and beneficial both to His Majesty and His Kingdom.

Neither do I esteem it less

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properties fit to obey you; that is to say, with a heart harbouring no ambition, but an endless aim to serve my King and Countrey: And if my endeavours prove effectual, (as I am confident they will) His Majesty shall not onely become rich, but His People likewise, as Treasurers unto Him; and His Pierless Majesty, our King, shall become both belov'd at home, and fear'd abroad; deeming the riches of a King to consist in the plenty enjoyed by his People.

And the way to render him to be feared abroad, is to content his People at home, who then with heart and hand are ready to assist him; and whatsoever God blesseth me with

with to contribute towards the increaſe of His Revenues in any conſiderable way, I deſire it may be imployed to the uſe of His People; that is, for the taking off ſuch Taxes or Burthens from them as they chiefly grone under, and by a Temporary neceſsity onely impoſed on them; which being thus ſupplied will certainly beſt content the King, and ſatisfie His People; which, I dare ſay, is the continual Tend of all your indefatigable pains, and the perfect demonſtrations of your Zele to His Majeſty, and an evidence that the Kingdoms Truſt is juſtly and deſervedly repoſed in you. And if ever Parliament acquitted themſelves thereof, it is this of yours,

yours, compoſed of moſt deſerving and qualified Perſons; qualified, I ſay, with your affection to your Prince, and with a tenderneſs to His People; with a bountiful heart towards Him, yet a frugality in their behalfs.

Go on therefore chearfully (my Lords and Gentlemen) and not onely our gracious King, but the King of Kings, will reward you, the Prayers of the People will attend you, and His Majeſty will with thankful arms embrace you. And be pleaſed to make uſe of me and my endeavours to enrich them, not my ſelf; ſuch being my onely requeſt unto you, ſpare me not in what your Wiſdoms ſhall find me uſeful, who do eſteem my

ſelf

ſelf not onely by the Act of the Water-commanding Engine (which ſo chearfully you have paſt) ſufficiently rewarded, but likewiſe with courage enabled to do ten times more for the future; and my Debts being paid, and a competency to live according to my Birth and Quality ſetled, the reſt ſhall I dedicate to the ſervice of our King and Countrey by your diſpoſals: and eſteem me not the more, or rather any more, by what is paſt, but what's to come; profeſsing really from my heart, that my Intentions are to out-go the ſix or ſeven hundred thouſand pounds already ſacrificed, if countenanced and encouraged by you, ingenuouſly confeſsing that

that the Melancholy which hath lately ſeized upon me (the cauſe whereof none of you but may eaſily gueſs) hath, I dare ſay, retarded more advantages to the publick ſervice then modeſty will permit me to utter: And now revived by your promiſing favours, I ſhall infallibly be enabled thereunro in the Experiments extant, and compriſed under theſe heads practicable with my directions by the unparallel'd Workman both for truſt and skill, *Caſpar Kaltoff's* hand, who hath been theſe five and thirty years as in a ſchool under me imployed, and ſtill at my diſpoſal, in a place by my great expences made fit for publick ſervice, yet lately

like

like to be taken from me, and conſequently from the ſervice of King and Kingdom, without the leaſt regard of above ten thouſand pounds expended by me, and through my Zele to the Common good; my Zele, I ſay, a field large enough for you (my Lords and Gentlemen) to work upon.

The Treaſures buried under theſe heads, both for War, Peace and Pleaſure, being inexhauſtible; I beſeech you pardon me if I ſay ſo; it ſeems a Vanity, but comprehends a Truth; ſince no good Spring but becomes the more plentiful by how much more it is drawn; and the Spinner to weave his web is never ſtinted, but further inforc'd. The

The more then that you ſhall be pleaſed to make uſe of my Inventions, the more Inventive ſhall you ever find me, one Invention begetting ſtill another, and more and more improving my ability to ſerve my King and you; and as to my heartineſs therein there needs no addition, nor to my readineſs a ſpur. And therefore (my Lords and Gentlemen) be pleaſed to begin, and deſiſt not from commanding me till I flag in my obedience and endeavours to ſerve my King and Country:

For certainly you'l find me
breathleſs firſt t'expire,
Before my hands grow wea-
ry, or my legs do tire.

Yet abſtracting from any Intereſt of my own, but as a Fellow-

Fellow-Subject and Compatriot will I ever labour in the Vineyard, moſt heartily and readilyobeying the leaſt ſummons from you, by putting faithfully in execution, what your Judgments ſhall think fit to pitch upon amongſt this Century of Experiences, perhaps dearly purchaſed by me, but now frankly and *gratis* offered to you. Since my heart (methinks) cannot be ſatisfied in ſerving my King and Country, if it ſhould coſt them any thing; As I confeſs when I had the honour to be neare ſo obliging a Maſter as His late Majeſty of happy memory, who never refuſed me his Ear to any reaſonable motion: And as for unreaſonable ones, or ſuch as were not

not fitting for him to grant, I would rather to have dyed a thouſand deaths, then ever to have made any one unto him.

Yet whatever I was ſo happy as to obtain for any deſerving Perſon, my Pains, Breath and Intereſt imployed therein ſatisfied me not, unleſs I likewiſe ſatisfied the Fees; but that was in my Golden Age.

And even now, though my ability and means are ſhortened, the world knows why my heart remains ſtill the ſame; and be you pleaſed (my Lords and Gentlemen) to reſt moſt aſſured, that the very complacency that I ſhall take in the executing your Commands ſhall be unto me a ſufficient and an abundantly-ſatisfactory reward. Vouch-

Vouchſafe therefore to diſpoſe freely of me, and whatever lieth in my power to perform; firſt, in order to His Majeſty's ſervice; ſecondly, for the good and advantage of the Kingdom; thirdly, to all your ſatisfactions, for particular profit and pleaſure to your individual ſelves, profeſsing that in all and each of the three reſpects I will ever demean my ſelf as it beſt becomes,

My Lords and Gentlemen,
Your moſt paſsionately-bent Fellow-Subject in His Majeſty's ſervice, Compatriot for the publick good and advantage, and a moſt humble Servant to all and every of you,
WORCESTER.

A CENTURY

OF THE

Names and Scantlings of Inventions by me already practiſed.

SEveral ſorts of Seals, ſome ſhewing by ſcrues, others by gages, faſtening or unfaſtening all the marks at once; others by additional 1.

ditional points and imaginary places, proportionable to ordinary Escocheons and Seals at Arms, each way palpably and punctually setting down (yet private from all others, but the Owner, and by his assent) the day of the Moneth, the day of the Week, the Moneth of the Year, the Year of our Lord, the Names of the Witnesses, and the individual place where any thing was sealed, though in ten thousand

several

ſeveral places, together with the very number of lines contained in a Contract, whereby falſification may be diſcovered, and manifeſtly proved, being upon good grounds ſuſpected.

Upon any of theſe Seals a man may keep Accompts of Receipts and Disburſments from one Farthing to an hundred millions, punctually ſhewing each pound, ſhilling, peny or farthing.

By theſe ſeals like-

wiſe any Letter, though written but in Engliſh, may be read and underſtood in eight ſeveral languages, and in Engliſh it ſelf to clean contrary and different ſenſe, unknown to any but the Correſpondent, and not to be read or underſtood by him neither, if opened before it arrive unto him; ſo that neither Threats, nor hopes of Reward, can make him reveal the ſecret, the Letter having been intercepted, and

and first opened by the Enemy.

How ten thousand Persons may use these seals to all and every of the purposes aforesaid, and yet keep their secrets from any but whom they please. 2.

A Cypher and Character so contrived, that one line, without returns and circumflexes, stands for each and every of the 24. letters; and as ready to be made for the one letter as the other. 3.

4. This Invention refined, and ſo abreviated that a point onely ſheweth diſtinctly and ſignificantly any of the 24. letters; and theſe very points to be made with two pens, ſo that no time will be loſt, but as one finger riſeth the other may make the following letter, never clogging the memory with ſeveral figures for words, and combination of letters; which with eaſe, and void of confuſion, are thus ſpeedily

dily and punctually, letter for letter, set down by naked and not multiplied points. And nothing can be less then a point, the Mathematical definition of being *Cujus pars nulla.* And of a motion no swifter imaginable then *Semiquavers* or *Releshes*, yet applicable to this manner of writing.

5. A way by a Circular motion, either along a Rule or Ring-wise, to vary any Alphabet, even this of Points, so that

the ſelf-ſame Point individually placed, without the leaſt additional mark or variation of place, ſhall ſtand for all the 24. letters, and not for the ſame letter twice in ten ſheets writing; yet as eaſily and certainly read and known, as if it ſtood but for one and the ſelf-ſame letter conſtantly ſignified.

6. How at a Window, as far as Eye can diſcover black from white, a man may hold diſcourſe with his Correſpondent, with-

without noiſe made or notice taken; being, according to occaſion given and means afforded, *Ex re natâ*, and no need of Proviſion beforehand; though much better if foreſeen, and means prepared for it, and a premeditated courſe taken by mutual conſent of parties.

7. A way to do it by night as well as by day, though as dark as Pitch is black.

8. A way how to level and ſhoot Cannon by

night as well as by day; and as directly; without a platform or measures taken by day, yet by a plain and infallible rule.

9. An Engine, portable in ones Pocket, which may be carried and fastened on the inside of the greatest Ship, *Tanquam aliud agens*, and at any appointed minute, though a week after, either of day or night, it shall irrecoverably sink that Ship.

10. A way from a mile off

off to dive and faſten a like Engine to any Ship, ſo as it may punctually work the ſame effect either for time or execution.

How to prevent and ſafeguard any Ship from ſuch an attempt by day or night. 11.

A way to make a Ship not poſsible to be ſunk though ſhot an hundred times betwixt wind and water by Cannon, and ſhould loſe a whole Plank, yet in half an hours time ſhould be 12.

made as fit to ſail as before.

13. How to make ſuch falſe Decks as in a moment ſhould kill and take priſoners as many as ſhould board the Ship, without blowing the Decks up, or deſtroying them from being reducible, and in a quarrer of an hours time ſhould recover their former ſhape, and to be made fit for any imployment without diſcovering the ſecret.

14. How to bring a force to

to weigh up an Anchor, or to do any forcible exploit in the narroweſt or loweſt room in any Ship, where few hands ſhall do the work of many; and many hands applicable to the ſame force, ſome ſtanding, others ſitting, and by virtue of their ſeveral helps a great force augmented in little room, as effectual as if there were ſufficient ſpace to go about with an Axle-tree, and work far from the Centre.

15. A way how to make a Boat work it ſelf againſt Wind and Tide, yea both without the help of man or beaſt; yet ſo that the Wind or Tide, though directly oppoſite, ſhall force the Ship or Boat againſt it ſelf; and in no point of the Compaſs, but it ſhall be as effectual, as if the wind were in the Pupp, or the ſtream actually with the courſe it is to ſteer, according to which the Oars ſhall row, and neceſſary motions

tions work and move towards the desired Port or point of the Compass.

How to make a Sea-castle or Fortification Cannon-proof, and capable of a thousand men, yet sailable at pleasure to defend a passage, or in an hours time to divide it self into three Ships as fit and trimm'd to sail as before: And even whilest it is a Fort or Castle they shall be unanimously steered, and effectually be driven by 16.

by an indifferent ſtrong wind.

17. How to make upon the *Thames* a floting Garden of pleaſure, with Trees, Flowers, Banquetting-Houſes, and Fountains, Stews for all kind of fiſhes, a reſerve for Snow to keep Wine in, delicate Bathing-places, and the like; with muſick made with Mills: and all in the middeſt of the ſtream, where it is moſt rapid.

18. An Artificial Fountain to be turned like an Hour-

Hour-glaſs by a child in the twinkling of an eye, it holding great quantity of water, and of force ſufficient to make ſnow, ice and thunder, with a chirping and ſinging of birds, and ſhewing of ſeveral ſhapes and effects uſual to Fountains of pleaſure.

19. A little Engine within a Coach, whereby a child may ſtop it, and ſecure all perſons within it, and the Coachman himſelf, though the horſes be never ſo unruly

unruly in a full career; a child being sufficiently capable to looſen them in what poſture ſoever they ſhould have put themſelves, turning never ſo ſhort; for a child can do it in the twinkling of an eye.

20. How to bring up water Balance-wiſe, ſo that as little weight or force as will turn a Balance will be onely needful, more then the weight of the water within the Buckets, which counterpoiſed emty themſelves one

one into the other, the uppermoſt yielding its water (how great a quantity ſoever it holds) at the ſelf-ſame time the lowermoſt taketh it in, though it be an hundred fathom high.

How to raiſe water conſtantly with two Buckets onely day and night, without any other force then its own motion, uſing not ſo much as any force, wheel or ſucker, nor more pullies then one, on which the cord or chain rolleth with 21.

with a Bucket faſtened at each end. This, I confeſs, I have ſeen and learned of the great Mathematician *Claudius* his ſtudies at *Rome*, he having made a Preſent thereof unto a Cardinal; and I deſire not to own any other mens Inventions, but if I ſet down any, to nominate likewiſe the Inventor.

22. To make a River in a Garden to ebbe and flow conſtantly, though twenty foot over, with a childs force, in ſome private

private room or place out of ſight, and a competent diſtance from it.

To ſet a Clock in a Caſtle, the water filling the Trenches about it; it ſhall ſhew by ebbing and flowing the Hours, Minutes and Seconds, and all the comprehenſible motions of the Heavens, and Counter-nation of the Earth, according to *Copernicus*. 23.

How to increaſe the ſtrength of a Spring to ſuch an height, as to ſhoot Bumbaſſes and Bul- 24.

Bullets of an hundred pound weight a Steeple-height, and a quarter of a mile off and more, Stone-bow-wiſe, admirable for Fire-works and aſtoniſhing of beſieged Cities, when without warning given by noiſe they find themſelves ſo forcibly and dangerouſly ſurpriſed.

25. How to make a Weight that cannot take up an hundred pound, and yet ſhall take up two hundred pound, and at the ſelf-ſame diſtance

ſtance from the Centre; and ſo proportionably to millions of pounds.

26. To raiſe weight as well and as forcibly with the drawing back of the Lever, as with the thruſting it forwards; and by that means to loſe no time in motion or ſtrength. This I ſaw in the *Arcenal* at *Venice*.

27. A way to remove to and fro huge weights with a moſt inconſiderable ſtrength from place to place. For example,

Ten

Ten Tunne with ten pounds, and leſs; the ſaid ten pounds not to fall lower then it makes the ten Tunne to advance or retreat upon a Level.

28. A Bridge portable in a Cart with ſix horſes, which in a few hours time may be placed over a River half a mile broad, whereon with much expedition may be tranſported Horſe, Foot and Cannon.

29. A portable Fortification able to contain five hun-

hundred fighting men, and yet in ſix hours time may be ſet up, and made Cannon-proof, upon the ſide of a River or Paſs, with Cannon mounted upon it, and as complete as a regular Fortification, with Half-moons and Counter-ſcarps.

A way in one nights time to raiſe a Bulwork twenty or thirty foot high, Cannon-proof, and Cannon mounted upon it, with men to overlook, command and batter a Towne; for though 30.

though it contain but four Pieces, they shall be able to discharge two hundred Bullets each hour.

31. A way how safely and speedily to make an approach to a Castle or Town-wall, and over the very Ditch at Noon-day.

32. How to compose an universal Character methodical and easie to be written, yet intelligible in any Language; so that if an English-man write it in English, a French-

French-man, Italian, Spaniard, Iriſh, Welſh, being Scholars; yea, Grecian or Hebritian ſhall as perfectly underſtand it in their owne Tongue, as if they were perfect Engliſh, diſtinguiſhing the Verbs from Nouns, the Numbers, Tenſes and Caſes as properly expreſſed in their own Language as it was written in Engliſh.

33. To write with a Needle and Thred, white, or any colour upon white, or any other colour,

lour, ſo that one ſtitch ſhall ſignificantly ſhew any letter, and as readily and as eaſily ſhew the one letter as the other, and fit for any Language.

34. To write by a knotted Silk ſtring, ſo that every knot ſhall ſignifie any letter with Comma, Full point, or Interrogation, and as legible as with Pen and Ink upon white Paper.

35. The like by the fringe of Gloves.

36. By ſtringing of Bracelets. By

By Pinck'd Gloves. 37.
By holes in the bottom of a Sieve. 38.
By a Lattin or Plate Lanthorn. 39.
By the Smell. 40.
By the Taſte. 41.
By the Touch. 42.
By theſe three Senſes as perfectly, diſtinctly and unconfuſedly, yea as readily as by the ſight.
How to vary each of theſe, ſo that ten thouſand may know them, and yet keep the underſtanding part from any but their Correſpondent. 43.

44. To make a Key of a Chamber door, which to your ſight hath its Wards and Roſe-pipe but Paper-thick, and yet at pleaſure in a minute of an hour ſhall become a perfect Piſtol, capable to ſhoot through a Breſt-plate commonly of Carabine-proof, with Prime, Powder and Fire-lock, undiſcoverable in a ſtrangers hand.

45. How to light a Fire and a Candle at what hour of the night one awaketh, without riſing or

or putting ones hand out of the bed. And the ſame thing becomes a ſerviceable Piſtol at pleaſure; yet by a ſtranger, not knowing the ſecret, ſeemeth but a dexterous Tinder-box.

How to make an artificial Bird to fly which way and as long as one pleaſeth, by or againſt the wind, ſometimes chirping, other times hovering, ſtill tending the way it is deſigned for. 46.

To make a Ball of a- 47.

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ny metal, which thrown into a Pool or Pail of water ſhall preſently riſe from the bottom, and conſtantly ſhew by the *ſuperficies* of the water the hour of the day or night, never riſing more out of the water then juſt to the minute it ſheweth of each quarter of the hour; and if by force kept under water, yet the time is not loſt, but recovered as ſoon as it is permitted to riſe to the *ſuperficies* of the water.

A ſcrued Aſcent, inſtead of Stairs, with fit landing places to the beſt Chambers of each Story, with Back-ſtairs within the Noell of it, convenient for Servants to paſs up and down to the inward Rooms of them unſeen and private. 48.

A portable Engine, in way of a Tobacco-tongs, whereby a man may get over a wall, or get up again being come down, finding the coaſt proving unſecure unto him. 49.

50. A complete light portable Ladder, which taken out of ones Pocket, may be by himſelf faſtened an hundred foot high to get up by from the ground.

51. A Rule of Gradation, which with eaſe and method reduceth all things to a private correſpondence, moſt uſeful for ſecret Intelligence.

52. How to ſignifie words and a perfect Diſcourſe by jangling of Bells of any Pariſh-Church, or by

by any Muſical Inſtrument within hearing, in a ſeeming way of tuning it; or of an unskilful beginner.

A way how to make hollow and cover a Water-ſcrue as big and as long as one pleaſeth in an eaſie and cheap way. 53.

How to make a Water-ſcrue tite, and yet tranſparent; and free from breaking; but ſo clear, that one may palpably ſee the water or any heavy thing how and why it is mounted by turning. 54.

55. .A double Water-ſcrue, the innermoſt to mount the water, and the outermoſt for it to deſcend more in number of threds, and conſequently in quantity of water, though much ſhorter then the innermoſt ſcrue, by which the water aſcendeth, a moſt extraordinary help for the turning of the ſcrue to make the water riſe.

56. To provide and make that all the Weights of the deſcending ſide of a Wheel

Wheel ſhall be perpetually further from the Centre, then thoſe of the mounting ſide, and yet equal in number and heft to the one ſide as the other. A moſt incredible thing, if not ſeen, but tried before the late King (of bleſſed memory) in the *Tower*, by my directions, two Extraordinary Embaſſadors accompanying His Majeſty, and the Duke of *Richmond* and Duke *Hamilton*, with moſt of the Court, attending Him.

Him. The Wheel was 14. Foot over, and 40. Weights of 50. pounds apiece. Sir *William Balfore*, then Lieutenant of the *Tower*, can juſtifie it, with ſeveral others. They all ſaw, that no ſooner theſe great Weights paſſed the Diameter-line of the lower ſide, but they hung a foot further from the Centre, nor no ſooner paſſed the Diameter-line of the upper ſide, but they hung a foot nearer. Be pleaſed to judge the conſequence. An

An ebbing and flowing Water-work in two Veſſels, into either of which the water ſtanding at a level, if a Globe be caſt in, inſtead of riſing it preſently ebbeth, and ſo remaineth untill a like Globe be caſt into the other Veſſel, which the water is no ſooner ſenſible of, but that Veſſel preſently ebbeth, and the other floweth, and ſo continueth ebbing and flowing untill one or both of the Globes be taken out, work- 57.

working ſome little effect beſides its own motion, without the help of any man within ſight or hearing : But if either of the Globes be taken out with ever ſo ſwift or eaſie a motion, at the very inſtant the ebbing and flowing ceaſeth ; for if during the ebbing you take out the Globe, the water of that Veſſel preſently returneth to flow, and never ebbeth after, untill the Globe be returned into it, and then the motion be-

beginneth as before.

How to make a Piſtol to diſcharge a dozen times with one loading, and without ſo much as once new Priming requiſite, or to change it out of one hand into the other, or ſtop ones horſe. 58.

Another way as faſt and effectual, but more proper for Carabines. 59.

A way with a Flask appropriated unto it, which will furniſh either Piſtol or Carabine with a dozen Charges in three minutes time, 60.

to

to do the whole execution of a dozen ſhots, as ſoon as one pleaſeth, proportionably.

61. A third way, and particular for Muſquets, without taking them from their Reſts to charge or prime, to a like execution, and as faſt as the Flask, the Muſquet containing but one Charge at a time.

62. A way for a Harquebuſs, a Crock, or Ship-muſquet, ſix upon a Carriage, ſhooting with ſuch expedition, as without

out danger one may charge, level, and discharge them sixty times in a minute of an hour, two or three together.

A sixth way, most excellent for Sakers, differing from the other, yet as swift. 63.

A seventh, tried and approved before the late King (of ever blessed memory) and an hundred Lords and Commons, in a Cannon of 8. inches half quarter, to shoot Bullets of 64. pounds weight, and 24. pounds 64.

pounds of pouder, twenty times in six minutes; so clear from danger, that after all were discharged, a Pound of Butter did not melt being laid upon the Cannon-britch, nor the green Oile discoloured that was first anointed and used between the Barrel thereof, and the Engine, having never in it, nor within six foot, but one charge at a time.

65. A way that one man in the Cabin may govern the whole side of Ship-

Ship-muſquets, to the number (if need require) of 2. or 3000. ſhots.

A way that againſt ſeveral Advenues to a Fort or Caſtle, one man may charge fifty Cannons playing, and ſtopping when he pleaſeth, though out of ſight of the Cannon. 66.

A rare way likewiſe for Muſquettoons faſtned to the Pummel of of the Saddle, ſo that a Common Trooper cannot miſſe to charge them, with twenty or thirty 67.

thirty Bullets at a time, even in full career.

When first I gave my thoughts to make Guns shoot often, I thought there had been but one onely exquisite way inventible, yet by several trials and much charge I have perfectly tried all these.

68. An admirable and most forcible way to drive up water by fire, not by drawing or sucking it upwards, for that must be as the Philosopher calleth it, *Intra sphæram*

ſphæram activitatis, which is but at ſuch a diſtance. But this way hath no Bounder, if the Veſſels be ſtrong enough; for I have taken a piece of a whole Cannon, whereof the end was burſt, and filled it three quarters full of water, ſtopping and ſcruing up the broken end; as alſo the Touch-hole; and making a conſtant fire under it, within 24. hours it burſt and made a great crack: So that having a way to make my

my Veſſels, ſo that they are ſtrengthened by the force within them, and the one to fill after the other. I have ſeen the water run like a conſtant Fountaine-ſtream forty foot high; one Veſſel of water rarified by fire driveth up forty of cold water. And a man that tends the work is but to turn two Cocks, that one Veſſel of water being conſumed, another begins to force and re-fill with cold water, and ſo ſucceſsively, the fire

fire being tended and kept conſtant, which the ſelf-ſame Perſon may likewiſe abundantly perform in the interim between the neceſsity of turning the ſaid Cocks.

69. A way how a little triangle ſcrued Key, not weighing a Shilling, ſhall be capable and ſtrong enough to bolt and unbolt round about a great Cheſt an hundred Bolts through fifty Staples, two in each, with a direct contrary motion,

motion, and as many more from both ſides and ends, and at the ſelf-ſame time ſhall faſten it to the place beyond a mans natural ſtrength to take it away : and in one and the ſame turn both locketh and openeth it.

70. A Key with a Roſe-turning pipe, and two Roſes pierced through endwiſe the Bit thereof, with ſeveral handſomly-contriv'd Wards, which may likewiſe do the ſame effects.

A Key perfectly ſquare, with a Scrue turning within it, and more conceited then any of the reſt, and no heavier then the triangle-ſcrued Key, and doth the ſame effects. 71.

An Eſcocheon to be placed before any of theſe Locks with theſe properties. 72.

1. The owner (though a woman) may with her delicate hand vary the wayes of coming to open the Lock ten millions of

 times,

times, beyond the knowledge of the Smith that made it, or of me who invented it.

2. If a ſtranger open it, it ſetteth an Alarm a-going, which the ſtranger cannot ſtop from running out; and beſides, though none ſhould be within hearing, yet it catcheth his hand, as a Trap doth a Fox; and though far from maiming him, yet it leaveth ſuch a mark be-

behind it, as will discover him if suspected; the Escocheon or Lock plainly shewing what monies he hath taken out of the Box to a farthing, and how many times opened since the owner had been in it.

A transmittible Gallery over any Ditch or Breach in a Town-wall, with a Blinde and Parapit Cannon-proof. 73.

A Door, whereof the turning of a Key, with the help and motion of 74.

the handle, makes the hinges to be of either ſide, and to open either inward or outward, as one is to enter or to go out, or to open in half.

75. How a Tape or Ribbon-weaver may ſet down a whole diſcourſe, without knowing a letter, or interweaving any thing ſuſpicious of other ſecret then a new-faſhioned Ribbon.

76. How to write in the dark as ſtreight as by day or candle-light.

77. How to make a man

to

to fly; which I have tried with a little Boy of ten years old in a Barn, from one end to the other, on an Hay-mow.

78. A Watch to go constantly, and yet needs no other winding from the first setting on the Cord or Chain, unless it be broken, requiring no other care from one then to be now and then consulted with concerning the hour of the day or night; and if it be laid by a week together, it will not erre much, but

the oftener looked upon, the more exact it ſheweth the time of the day or night.

79. A way to lock all the Boxes of a Cabinet, (though never ſo many) at one time, which were by particular Keys appropriated to each Lock opened ſeverally, and independent the one of the other, as much as concerneth the opening of them, and by theſe means cannot be left opened unawares.

80. How to make a Piſtol

ſtol Barrel no thicker then a Shilling, and yet able to endure a Muſquet proof of Powder and Bullet.

A Combe-conveyance carrying of Letters without ſuſpicion, the head being opened with a Needle-ſcrue drawing a Spring towards them; the Comb being made but after an uſual form carried in ones Pocket. 81.

A Kniſe-Spoon or Fork in an uſual portable Caſe, may have the like conveyances in their handles. 82.

83. A Raſping-mill for Harts-horn, whereby a child may do the work of half a dozen men, commonly taken up with that work.

84. An Inſtrument whereby perſons ignorant in Arithmetick may perfectly obſerve Numerations and Subſtractions of all Summes and Fractions.

85. A little Ball made in the ſhape of Plum or Pear, being dexterouſly conveyed or forced into a bodies mouth, ſhall pre-

preſently ſhoot forth ſuch and ſo many Bolts of each ſide and at both ends, as without the owners Key can neither be opened or filed off, being made of tempered Steel, and as effectually locked as an Iron Cheſt.

A Chair made *a-la-mode*, and yet a ſtranger being perſwaded to ſit down in't, ſhall have immediately his armes and thighs lock'd up beyond his own power to looſen them.. 86.

A Braſs Mold to caſt 87.

Candles, in which a man may make 500. dozen in a day, and adde an Ingredient to the tallow which will make it cheaper, and yet ſo that the Candles ſhall look whiter and laſt longer.

88. How to make a Brazen or Stone-head, in the midſt of a great Field or Garden, ſo artificial and natural, that though a man ſpeak never ſo ſoftly, and even whiſpers into the ear thereof, it will preſently open its mouth.

mouth, and reſolve the Queſtion in French, Latine, Welſh, Iriſh or Engliſh, in good terms uttering it out of his mouth, and then ſhut it untill the next Queſtion be asked.

89. White Silk knotted in the fingers of a Pair of white Gloves, and ſo contrived without ſuſpicion, that playing at *Primero* at Cards, one may without clogging his memory keep reckoning of all Sixes, Sevens and Aces which he hath diſcarded. A

90. A moſt dexterous Dicing Box, with holes tranſparent, after the uſual faſhion, with a Device ſo dexterous, that with a knock of it againſt the Table the four good Dice are faſtened, and it looſeneth four falſe Dice made fit for his purpoſe.

91. An artificial Horſe, with Saddle and Caparizons fit for running at the Ring, on which a man being mounted, with his Lance in his hand, he can at pleaſure

ſure make him ſtart, and ſwiftly to run his career, uſing the decent poſture with *bon grace*, may take the Ring as handſomly, and running as ſwiftly as if he rode upon a Barbe.

92. A Scrue made like a Water-ſcrue, but the bottom made of Iron-plate Spade-wiſe, which at the ſide of a Boat emptieth the mud of a Pond, or raiſeth Gravel.

93. An Engine whereby one man may take out of the water a Ship of 500.

500. Tun, ſo that it may be calked, trimmed and repaired without need of the uſual way of ſtocks, and as eaſily let it down again.

94. A little Engine portable in ones Pocket, which placed to any door, without any noiſe, but on crack, openeth any door or gate.

95. A double Croſs-bow, neate, handſome and ſtrong, to ſhoot two Arrows, either together, or one after the other, ſo immediately that a Deer

Deer cannot run two steps but, if he miss of one Arrow, he may be reach'd with the other, whether the Deer run forward, sideward, or start backward.

96. A way to make a Sea-bank so firm and Geometrically-strong, that a stream can have no power over it; excellent likewise to save the Pillar of a Bridge, being far cheaper and stronger then Stone-walls.

97. An Instrument whereby an ignorant person may

may take any thing in Perſpective, as juſtly, and more then the skilfulleſt Painter can do by his eye.

98. An Engine ſo contrived, that working the *Primum mobile* forward or backward, upward or downward, circularly or corner-wiſe, to and fro, ſtreight, upright or downright, yet the pretended Operation continueth, and advanceth none of the motions above-mentioned, hindering, much leſs ſtopping

ping the other; but unanimouſly, and with harmony agreeing they all augment and contribute ſtrength unto the intended work and operation: And therefore I call this *A Semi-omnipotent Engine*, and do intend that a Model thereof be buried with me.

99. How to make one pound weight to raiſe an hundred as high as one pound falleth, and yet the hundred pound deſcending doth what nothing leſs then one hun-

hundred pound can effect.

100 Upon ſo potent a help as theſe two laſt mentioned Inventions a Waterwork is by many years experience and labour ſo advantageouſly by me contrived, that a Childs force bringeth up an hundred foot high an incredible quantity of water, even two foot Diameter, ſo naturally, that the work will not be heard even into the next Room; and with ſo great eaſe and Geometrical

trical Symmetry, that though it work day and night from one end of the year to the other, it will not require forty ſhillings reparation to the whole Engine, nor hinder ones day-work. And I may boldly call it *The moſt ſtupendious Work in the whole world*: not onely with little charge to drein all ſorts of Mines, and furniſh Cities with water, though never ſo high ſeated, as well to keep them ſweet, running through ſeveral

ral ſtreets, and ſo performing the work of Scavingers, as well as furniſhing the Inhabitants with ſufficient water for their private occaſions; but likewiſe ſupplying Rivers with ſufficient to maintaine and make them portable from Towne to Towne, and for the bettering of Lands all the way it runs; with many more advantageous, and yet greater effects of Profit, Admiration and Conſequence. So that

that deſervedly I deem this Invention to crown my Labours, to reward my Expences, and make my Thoughts acquieſce in way of further Inventions: This making up the whole Century, and preventing any further trouble to the Reader for the preſent, meaning to leave to Poſterity a Book, wherein under each of theſe Heads the means to put in execution and viſible trial all and every of theſe Inventions, with the

the ſhape and form of all things belonging to them, ſhall be Printed by Braſs-plates.

In Bonum Publicum,
&
Ad majorem DEI Gloriam.

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